

In the Claims

Please substitute amended claims 1-8, 10 and 12-15 for pending claims 1-8, 10 and 12-15 as follows:

1. (Amended) A hinge for use in a micro-assembly employing electrical power supplied from an electrical power source, the hinge comprising:
 - a silicon-on-insulator wafer including a bottom substrate layer, a middle buried oxide layer and a single crystal silicon device layer;
 - a ribbon hinge structure formed in the device layer of the silicon-on-insulator wafer, wherein the ribbon hinge structure is flexible and capable of movement out of the plane of the device layer; and
 - an electrical conductor carried on at least a portion of a surface of the ribbon hinge structure.

2. (Amended) The invention according to claim 1 wherein a micro-device is fabricated from at least a portion of the silicon-on-insulator wafer which has an initial uniform device layer thickness.

3. (Amended) The invention according to claim 1 wherein the ribbon hinge structure is configured with a mechanical integrity which permits application of a side-twisting mechanical torque sufficient to twist the ribbon hinge structure to 90° or more from an initial 0° twisted position.

4. (Amended) The invention according to claim 1 wherein the ribbon hinge structure has at least one of a width or thickness which is less than at least one of a width or thickness of the micro-device.

5. (Amended) The invention according to claim 1 wherein the ribbon structure has at least one of (i) an isolation region formed within the ribbon structure, and within which is deposited the electrical conduction material, or (ii) an area of insulation material which has been deposited and then patterned on the ribbon structure, wherein conductors can then be

placed on top of the insulation material.

6. (Amended) A micro-assembly comprising:

a micro-device formed on or in a device layer of a single crystal silicon substrate;

a ribbon structure formed on or in the device layer, the ribbon structure having been thinned to a thickness which is less than the thickness of the micro-device;

a connection interface providing a connection point between a first end of the micro-device and a first end of the ribbon structure; and

an electrical conductor material extending along the ribbon structure toward the micro-device.

7. (Amended) The invention according to claim 6 further including an anchor portion holding one end of the ribbon structure in a secure position.

8. (Amended) The invention according to claim 7 where the anchor portion is formed with an isolation groove, within which is deposited an isolation region of the anchor portion.

10. (Amended) The invention according to claim 6 further including an isolation region formed within the ribbon structure, and within which is deposited the electrical conductive material.

12. (Amended) The invention according to claim 6 wherein the ribbon structure has at least one of a width or thickness which is less than at least one of a width or thickness of the micro-device.

13. (Amended) The invention according to claim 6 wherein the micro-device is fabricated from a silicon-on-insulator wafer which has an initial uniform device layer thickness.

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14. (Amended) The invention according to claim 6 wherein the ribbon structure is configured with a mechanical integrity which permits application of a side-twisting mechanical torque to the micro-device sufficient to twist the micro-device to 90° or more from an initial 0° twisted position.

15. (Amended) The invention according to claim 6 wherein the ribbon structure is configured with a mechanical integrity which permits application of a lifting out-of-plane mechanical torque to lift the out-of-plane device from 0° which is in the horizontal plane, to 90° or more out of the horizontal plane.

Please add new claims 16-18 as follows:

16. The invention according to claim 1, the ribbon hinge structure further including:

an anchor portion holding one end of the ribbon hinge in a secure position, the anchor portion formed with an isolation groove, within which is deposited the isolation region of the anchor portion,

an isolation region formed within the ribbon hinge, and within which is deposited the electrical conductive material,

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the ribbon hinge structure is configured with a mechanical integrity which permits application of a side-twisting mechanical torque to the out-of-plane micro-device sufficient to twist the out-of-plane micro-device to 90° or more from an initial 0° twisted position.

17. The invention according to claim 6 further including an electronic device in operational connection to the electrical conductor material.

18. The invention according to claim 6 further including a power source in connection with the electrical conductor material.
